

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: October 21, 2001, 23:16:59 ; Search time 51.66 Seconds
(without alignments)
1928.092 Million cell updates/sec

Title: US-09-515-806-2

Perfect score: 8511

Sequence: 1 MAGGAGAPGRDRPPESYP.....YNIKVEKYSVLEFLYSYRDD 1643

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 412676 seqs, 60623988 residues

Total number of hits satisfying chosen parameters: 412676

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_0601.*

- 1: /SIDSL1/gcgdata/geneseq/geneseq/AA1980.DAT.*
- 2: /SIDSL1/gcgdata/geneseq/geneseq/AA1981.DAT.*
- 3: /SIDSL1/gcgdata/geneseq/geneseq/AA1982.DAT.*
- 4: /SIDSL1/gcgdata/geneseq/geneseq/AA1983.DAT.*
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- 6: /SIDSL1/gcgdata/geneseq/geneseq/AA1985.DAT.*
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- 9: /SIDSL1/gcgdata/geneseq/geneseq/AA1988.DAT.*
- 10: /SIDSL1/gcgdata/geneseq/geneseq/AA1989.DAT.*
- 11: /SIDSL1/gcgdata/geneseq/geneseq/AA1990.DAT.*
- 12: /SIDSL1/gcgdata/geneseq/geneseq/AA1991.DAT.*
- 13: /SIDSL1/gcgdata/geneseq/geneseq/AA1992.DAT.*
- 14: /SIDSL1/gcgdata/geneseq/geneseq/AA1993.DAT.*
- 15: /SIDSL1/gcgdata/geneseq/geneseq/AA1994.DAT.*
- 16: /SIDSL1/gcgdata/geneseq/geneseq/AA1995.DAT.*
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- 18: /SIDSL1/gcgdata/geneseq/geneseq/AA1997.DAT.*
- 19: /SIDSL1/gcgdata/geneseq/geneseq/AA1998.DAT.*
- 20: /SIDSL1/gcgdata/geneseq/geneseq/AA1999.DAT.*
- 21: /SIDSL1/gcgdata/geneseq/geneseq/AA2000.DAT.*
- 22: /SIDSL1/gcgdata/geneseq/geneseq/AA2001.DAT.*

Pred. NO. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	8511	100.0	1649	22	Novel protein kina
2	2996	35.2	604	21	Human cancer asoc
3	2946	34.6	619	21	Human ORFX ORF2525
4	623	7.3	135	21	Human ORFX ORF2786
5	549.5	6.5	1108	20	Pancreatic eukaryo
6	511.5	6.0	1068	20	Pancreatic eukaryo
7	511.5	6.0	1115	20	Rabbit eIF-2 alpha
8	473.5	5.6	626	14	Haem-regulated euk
9	473.5	5.6	626	15	Novel protein kina
10	471.5	5.5	630	22	Human PKR protein.
11	415.5	4.9	550	18	

12	414	4.9	551	16	AA82663
13	413	4.9	551	18	AAW12705
14	399	4.7	509	18	AAW25223
15	375	4.4	495	21	AAW94280
16	356	4.2	526	18	AAW25222
17	342.5	4.0	371	20	AAW21854
18	326.5	3.8	508	18	AAW25224
19	317.5	3.7	651	21	AAW77941
20	317.5	3.7	651	21	AAW70100
21	312.5	3.7	772	21	AAW85175
22	312	3.7	690	14	AAW40974
23	312	3.7	690	21	AAW70101
24	308.5	3.6	705	21	AAW85169
25	305	3.6	661	21	AAW70098
26	304.5	3.6	711	21	AAW85170
27	300	3.5	642	21	AAW70099
28	297	3.5	733	20	AAW30937
29	297	3.5	733	20	AAW22202
30	286.5	3.4	745	22	AAW65611
31	285	3.3	1230	19	AAW48895
32	284.5	3.3	442	19	AAW98707
33	282.5	3.3	740	21	AAW85172
34	278.5	3.3	802	21	AAW68790
35	276.5	3.2	802	21	AAW85168
36	275.5	3.2	403	21	AAW96770
37	275.5	3.2	525	21	AAW96776
38	274	3.2	626	19	AAW56159
39	274	3.2	626	20	AAW43320
40	274	3.2	626	20	AAW42109
41	274	3.2	626	20	AAW73533
42	274	3.2	626	21	AAW01218
43	274	3.2	842	20	AAW55356
44	273	3.2	336	21	AAW59148
45	273	3.2	445	21	AAW92330

ALIGNMENTS

RESULT 1

AAW65663

ID AAW65663 standard; Protein; 1649 AA.

AC AAW65663;

XX

XX

DT 27-MAR-2001 (first entry)

XX

DE Novel protein kinase, SEQ ID NO: 191.

XX

Human; mouse; protein kinase; antiarthritic; antisclerotic; osteopathic;

immunosuppressive; cardiac; renal; antiinflammatory; antisthmatic;

dermatological; antidiabetic; antifertility; gene therapy; vaccine;

immune disorder; cardiovascular disease; neurodegenerative disease;

cancer; autoimmune disorder; stroke; inflammatory bowel disease;

inflammatory pelvic disease; multiple sclerosis; psoriasis.

XX

OS Homo sapiens.

XX

PN WO200073469-A2.

XX

PD 07-DEC-2000.

XX

PF 26-MAY-2000; 2000WO-US14842.

XX

PR 28-MAY-1999; 99US-0136503.

XX

PA (SUGEN-) SUGEN INC.

XX

PI Plowman GD, Martinez R, Whyte D, Sudersanam S;

XX

DR WPI; 2001-032161/04.

DR N-PSDB; AAF44691.

XX

Potent
interference

PT Nucleic acids encoding kinase polypeptides, useful for diagnosing and
PT treating immune-related diseases and disorders, cardiovascular disease,
PT neurodegenerative diseases and/or cancers -
XX PS Claim 10; Fig 1; 310pp; English.

XX The present sequence is a novel protein kinase. The novel protein kinases
CC and the nucleic acids that encode them may be used in the treatment and
CC diagnosis of diseases associated with inappropriate kinase expression
CC such as immune-related diseases and disorders, cardiovascular disease,
CC neurodegenerative diseases and/or cancers. The nucleic acids and
CC complementary sequences may also be used as DNA probes in diagnostic
CC assays. The kinase polypeptides may be used as antigens in the production
CC of antibodies of kinase expression and activity. Anti-kinase antibodies
CC and kinase antagonists may also be used to down regulate kinase
CC expression and activity. Diseases related to kinase expression and
CC activity include rheumatoid arthritis, atherosclerosis, autoimmune
CC disorders, complications of organ transplantation, myocardial infarction,
CC immune disorders, cardiomyopathies, strokes, renal failure,
CC oxidative-stress related disorders, chronic inflammatory bowel disease,
CC chronic inflammatory pelvic disease, multiple sclerosis, asthma,
CC osteoarthritis, psoriasis, rhinitis, autoimmunity, diabetes, cancers and
CC reproductive disorders.

XX Sequence 1649 AA;

Query Match 100.0%; Score 8511; DB 22; Length 1649;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1643; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MAGRGAPGRGRDPPESSYQORQDHEIQALEAIIYADFPQDLRPDACCQVKEPPEINLVLY 60
DB 1 magrgapgrgrdppeessyqorqdhelqaleaiaiyadfpqdlrpdaccqvkeppeinlvly 60
QY 61 PGLTGEVYVVDLRVKCPPTYPDVVPEIELKNAKLSNESVNLKSLRLEELAKKHGCE 120
DB 61 pgltgeevyvdldrvkcpptydvvpeieleknaklsnesvnlksrleelakkhgce 120
QY 121 VMIFELAYHVQSFLEHKNPKPSFHEEMLEPRAQEQORLEAKKEEQEORLEHIO 180
DB 121 vmifelayhvdsflehknppksfheemlepraqqeqorleakkeeqeoreilleio 180
QY 181 RRKEIEKEKRKEMAKOERLEIASLSNODHTSKDPGGHRTAAILHGGSPDFVGNKHR 240
DB 181 rrkeiekekrkemakorerleiaslsnqdhstskdpgghrtailhggspdfvgnghr 240
QY 241 ANSSGRSRERQYSVCNSEDSPGCEILYFNMGSPDQLMVHKGKICGSDQGLKLVYNAL 300
DB 241 anssgrsrerqysvcnsedspgscelilyfmgspdgqlmvhkgkicgsdeqlglvynal 300
QY 301 ETATGCFVLLYEWVLQWOKKMGPFLLTSQEKIDCKKOIGTETEFNSLVKLSHPNVVR 360
DB 301 etatgcfvlllyewvlqwkmgpfltsqekidckkqigtetefnslvklshpnnvr 360
QY 361 YLAMNKLQDDSDIVVDILVEHISGVSAAHLSHSGPIPVHQLRRTYAQLLSGLDYLSNS 420
DB 361 ylamnlkeqdsivvdiilvehisgvsaaahlsghgpipvhlrrtyaqlslgldylshns 420
QY 421 VVHKVLSASNLVDAGTVKLTDSISRLADICKEDYFQTRVRFSDNALPYKTGKKGD 480
DB 421 vvkhvlsasnvlvdagtvkltidsisrladickedfyftrvrfsdnalpyktgkkgd 480
QY 481 VWRLGILLLSLSOGCEGEPYVTPSDLPADQDFLKKVCCLDDKERSPOQLLKHSPIN 540
DB 481 vwrlgilllsisogcegepyvtpsdlpadqdfllkvcclddkerspqqlkhspfin 540
QY 541 PQPKMPLVEQSPEDSGGDYVETVTPSNRLPSAFTSOTQRFYTFEPEELQILKGA 600
DB 541 pqpkmplveqspedsggdyyetvtpsnrlpsaafstotqrfytfepelqilkgga 600
QY 601 FGAVTKVQNKLDGCCYAVKRTPINPASPQFRKIGEVTLLSRLHHENIVRYNAWIERHE 660
DB 601 fgavtkvqnkldgccyavkrtpinpaspqfrkigevtllsrlhhenivrynawierhe 660

RESULT 2
AAB43581

PR 05-APR-1999; 99US-0127728.
PR 30-MAR-2000; 2000US-0540763.
XX (CURA-) CURAGEN CORP.
XX Shinkets RA, Leach M;
XX WPI: 2000-602362/57.
XX N-PSDB; AAC76970.
XX Novel nucleic acids and peptides derived from open reading frame X,
PT useful for treating e.g. cancers, proliferative disorders,
PT neurodegenerative disorders and cardiovascular disease -
XX Claim 11; Page 4235-4237; 5507pp; English.
XX AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397,
CC which represent the human ORFX open reading frames 1 to 3161. The ORFX
CC sequences have activities such as: cytostatic; hepatotropic; vulnary;
CC antipsoriatic; antiparkinsonian; nootropic; neuroprotective;
CC osteopathic; anticonvulsant; antiarthritic; immunosuppressant;
CC immunostimulant; cardiant; thrombolytic; coagulant; vasotropic;
CC antidiabetic; hypotensive; dermatological; immunosuppressive;
CC antiinflammatory; antibacterial; antiviral; antifungal; antirheumatic;
CC antithyroid; and antianaemic. The sequences can be used for determining
CC the presence of or predisposition to, or preventing or treating
CC pathological conditions associated with an ORFX-associated disorder. The
CC nucleic acids can be used to express ORFX proteins in gene therapy
CC vectors. The proteins and nucleic acids may be used to treat cancers,
CC proliferative disorders, neurodegenerative disorders, osteoarthritis,
CC graft vs host disease, cardiovascular disease, diabetes mellitus,
CC hypertension, hypothyroidism, cholesterol ester storage, systemic lupus
CC erythematosus, severe combined immunodeficiency (SCID), AIDS, viral
CC bacterial or fungal infection, malaria, autoimmune disorders, asthma,
CC allergies, aplastic anaemia, burns, wounds, bone and cartilage damage,
CC nocturnal haemoglobinuria, antiinflammatory disease; to enhance
CC coagulation; to inhibit thrombosis; and as a contraceptive.
XX Sequence 619 AA;
XX Query Match 34.6%; Score 2946; DB 21; Length 619;
XX Best Local Similarity 95.8%; Pred. No. 2.9e-235;
XX Matches 586; Conservative 9; Mismatches 15; Indels 2; Gaps 1;
QY 1034 IFSQISPAIDYTDSDILKGNFSIRAKWQHVCEIIRIFKRGHGAVALCTPLILPNR 1093
DB 2 IFSQISPAIDYTDSDILKGNFSIRAKWQHVCEIIRIFKRGHGAVALCTPLILPNR 61
QY 1094 QIYEHNEAALFMDHSGMLVLPDLRIPFARYVARNILNLKRYCIERFPRKLRFP 1153
DB 62 QIYEHNEAALFMDHSGMLVLPDLRIPFARYVARNILNLKRYCIERFPRKLRFP 121
QY 1154 KELLECAFDIVTSTNSPLFAEIIYIYIIEIQQEPALQERNYSIYNHMLKAILLHC 1213
DB 122 KELLECAFDIVTSTNSPLFAEIIYIYIIEIQQEPALQERNYSIYNHMLKAILLHC 181
QY 1214 GPEDKLSQVILLYDVAYTEKLTREVEAKFCNLSLSNSLCRLYKFTIOKGLD--ODLM 1271
DB 182 GPEDKLSQVILLYDVAYTEKLTREVEAKFCNLSLSNSLCRLYKFTIOKGLD--ODLM 241
QY 1272 PTINSLIKQRTGIAQLVKYGLKLEEVVGLLKLGLKQLVNLGLVYKVOOHNGIIFQF 1331
DB 242 mnxnslkqktgiaqlvkvglkleevevllkklglqlvnlglvkvqvhngiifq 301
QY 1332 VAFIKRRORAVPEILAACGRVDLLIPQGRGQALGPVPTAIGVSIADKISAAVLNMEES 1391
DB 302 VAFIKRRORAVPEILAACGRVDLLIPQGRGQALGPVPTAIGVSIADKISAAVLNMEES 361
QY 1392 VTISSCDLLVSVGQMSRAINLTOKLTAGITAEITMYDWSQEEQLQYCRHHEITYV 1451
DB 362 VTISSCDLLVSVGQMSRAINLTOKLTAGITAEITMYDWSQEEQLQYCRHHEITYV 421

QY 1452 ALVSDKEGSHVVKVSFEKROTERKRVLETDLVHVHVLQKLRKVTDERNGREASDNLAQN 1511
DB 422 alvsdkegshvkvksfekergterkrlvletdlvhlvhlqklrtkvtderngreasdnlaqn 481
QY 1512 LKGSFNASGLFEIHGATVVPISVLAPEKLSASTRRRYETQVOTRLQTSLANLHOKSSE 1571
DB 482 lkgsfnsaglifelhgtatvpisvvlapeklsastrrryetqvcqrilqtslanlhqksse 541
QY 1572 TEILAVDLPKETILOFISLEWDADQAFNTTVKQLLSRLPKQRYLKLVCDEIYNIKVEKK 1631
DB 542 teilavdlpketilqlfislewdadqafnttvkqlslrpqgryklvcdeiynikvekk 601
QY 1632 VSVFLYSYRDD 1643
DB 602 vsvflfysyrrdd 613
RESULT 4
AAB43022
ID AAB43022 standard; Protein; 135 AA.
XX AAB43022;
XX 08-FEB-2001 (first entry)
XX Human ORFX ORF2786 polypeptide sequence SEQ ID NO:5572.
XX Human; open reading frame; ORFX; detection; cytostatic; hepatotropic;
KW vulnary; antipsoriatic; antiparkinsonian; nootropic; neuroprotective;
KW anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant;
KW immunostimulant; thrombolytic; coagulant; vasotropic; antidiabetic;
KW hypotensive; dermatological; immunosuppressive; antiinflammatory;
KW antiviral; antibacterial; antifungal; antirheumatic; antithyroid;
KW antianaemic; gene therapy; cancer; proliferative disorder; hypertension;
KW neurodegenerative disorder; osteoarthritis; graft vs host disease;
KW cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS;
KW cholesterol ester storage; systemic lupus erythematosus; infection;
KW severe combined immunodeficiency; malaria; autoimmune disorder; asthma;
KW allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound;
KW bone damage; cartilage damage; antiinflammatory disease; coagulation;
KW thrombosis; contraceptive.
XX Homo sapiens.
OS
XX WO2000058473-A2.
XX 05-OCT-2000.
XX 31-MAR-2000; 2000WO-US08621.
XX 31-MAR-1999; 99US-0127607.
PR 02-APR-1999; 99US-0127636.
PR 05-APR-1999; 99US-0127728.
PR 30-MAR-2000; 2000US-0540763.
XX (CURA-) CURAGEN CORP.
XX Shinkets RA, Leach M;
PI WPI: 2000-602362/57.
XX N-PSDB; AAC77231.
XX Novel nucleic acids and peptides derived from open reading frame X,
PT useful for treating e.g. cancers, proliferative disorders,
PT neurodegenerative disorders and cardiovascular disease -
XX Claim 11; Page 4757-4758; 5507pp; English.
XX AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397,
CC which represent the human ORFX open reading frames 1 to 3161. The ORFX
CC sequences have activities such as: cytostatic; hepatotropic; vulnary;
CC antipsoriatic; antiparkinsonian; nootropic; neuroprotective;
CC osteopathic; anticonvulsant; antiarthritic; immunosuppressant;

CC immunostimulant; cardiant; thrombolytic; coagulant; vasotropic;
 CC antidiabetic; hypotensive; dermatological; immunosuppressive;
 CC antiinflammatory; antibacterial; antiviral; antifungal; antirheumatic;
 CC antithyroid; and antianemic. The sequences can be used for determining
 CC the presence of or predisposition to, or preventing or treating
 CC pathological conditions associated with an ORFX-associated disorder. The
 CC nucleic acids can be used to express ORFX proteins in gene therapy
 CC vectors. The proteins and nucleic acids may be used to treat cancers,
 CC proliferative disorders, neurodegenerative disorders, osteoarthritis,
 CC graft vs host disease, cardiovascular disease, diabetes mellitus,
 CC hypertension, hypothyroidism, cholesterol ester storage, systemic lupus
 CC erythematosus, severe combined immunodeficiency (SCID), AIDS, viral,
 CC bacterial or fungal infection, malaria, autoimmune disorders, asthma,
 CC allergic, aplastic anaemia, burns, wounds, bone and cartilage damage,
 CC nocturnal haemoglobinuria, antiinflammatory disease; to enhance
 CC coagulation; to inhibit thrombosis; and as a contraceptive.
 XX
 SQ Sequence 135 AA;

Query Match 7.3%; Score 623; DB 21; Length 135;
 Best Local Similarity 97.5%; Pred. No. 1e-43;
 Matches 119; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 921 NOKVDFSLGIIFEMSHPMVTASERIFVLNQLRDTSPKPEDDGGEHAKOKSVISW 980
 DB 1 nqkvdflslgiifemshpmvtaserifvl nqlrdtpskpfedfdgehakoksviw 60
 QY 981 LNHDPAPKRPATTELLKSELLPPPMSESELEVLHHTLTVNVDGKAYTMAQIFSORIS 1040
 DB 61 lnhdpakrpattelksellpppmselehlhhtltnvdgkayrtmmaqifsgqla 120
 QY 1041 PA 1042
 DB 121 ga 122

RESULT 5
 AAY30046
 ID AAY30046 standard; Protein; 1108 AA.
 AC AAY30046;
 DT 04-OCT-1999 (first entry)
 DE Pancreatic eukaryotic translation initiation factor-2 alpha kinase.
 KW Pancreatic eukaryotic translation initiation factor-2 alpha kinase; PEK;
 KW eukaryotic translation initiation factor-2 alpha; pancreatic islet;
 KW drug discovery; drug development.
 OS Rattus sp.
 FH Key Location/Qualifiers
 FT Modified-site 20
 FT /note= "consensus N-myristylation site"
 FT Modified-site 44
 FT /note= "consensus N-myristylation site"
 FT Region 517..532
 FT /note= "hydrophobic region; potential transmembrane region"
 XX
 PN W09938994-A1.
 XX
 PD 05-AUG-1999.
 XX
 PF 12-JAN-1999; 99WO-US00623.
 XX
 PR 25-NOV-1998; 98US-0109992.
 PR 29-JAN-1998; 98US-0073031.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX

PI Shi Y;
 XX
 DR WPI; 1999-469338/39.
 DR N-PSDB; AAX86563.
 XX
 PT Novel rat and human pancreatic eukaryotic translation initiation
 XX factor 2alpha kinase useful for drug discovery and development
 PS Claim 7; Page 46-50; 77pp; English.
 CC The present sequence represents a pancreatic eukaryotic translation
 CC initiation factor-2 alpha kinase (PEK). PEK phosphorylates eukaryotic
 CC translation initiation factor-2 alpha. PEK polynucleotides was
 CC cloned from pancreatic islet DNA libraries. The PEK nucleic acids
 CC and protein can be used as tools for drug discovery and development.
 XX
 SQ Sequence 1108 AA;

Query Match 6.5%; Score 549.5; DB 20; Length 1108;
 Best Local Similarity 29.3%; Pred. No. 4.7e-36;
 Matches 150; Conservative 82; Mismatches 159; Indels 121; Gaps 17;
 QY 584 SRYFIEPEELQLLGKAGFAVIVKONKLDGCVAVKRIPINPASRQFRRIKGEVTLLSRL 643
 DB 579 sryltdfepiqmgvggfvvfeaknkvdccnyalkrripnrelarekvmrevkalakl 638
 QY 644 HHENIVRYNNAWIERHERPAGPTTP-----PDSGPLAKDDRAARG 694
 DB 639 ehpgivryfnawle-----tppekweemdelwldkdestdwlsspsmdapsvki 689
 QY 685 OPASDTGDLDSVAAAPPPILSSSVSWSTGERSASA-----RFPATGPGSSDDEDD- 736
 DB 690 rqmdpfstkegieviapspersrsvgiscgrtssesqsfplefsgtdcgnsdse 749
 QY 737 -----DEDEHGGVFSQSLPAS-----DSFSDIIFDNEDENSKS 770
 DB 750 ahnlqsdcltdcmedgtvgddegshfclpseaspytrsgtssivfedsgcdnas 809
 QY 771 QNQDEDCNE-KNGCH-----ESEPSTTEAVH----- 796
 DB 810 skedprmrnlhngghyvnkltefkssrsseatsptpttllsldftrntvdrlqp 869
 QY 797 -----VLYIQMEYCEKSTLRTDIDGLY---RDTVLWRLFREILDGLAYIHEKGIHRD 848
 DB 870 sspkvlylyiqmqlcrkenlkdwmrrcsmedrehrvclhifiqaeavqflhskgimhrd 929
 QY 849 LKPVNIFLSDHDKVIGDGLATDHLAFSADSKDDQDTGDLIKSDPS-GHLTGMVGTALY 907
 DB 930 lkpsniffmdvkvvgdglvt-----amdqdeeqt--vitpmpayathgvgvgtkly 982
 QY 908 VSPE-VOGSTKSAYNOKVLDLFSGLIIFEMSHPMVTASERIFVLNQLRDTSPKPEDEF 966
 DB 983 mspekighnn---yshkvdlfslglilfelly-pfstqmervertldvr---nlkfpplif 1035
 QY 967 DDGEHAKOKSVISLWLNHDPAPKRPATTELLKS 998
 DB 1036 tq-kypqehmmvqdmispspmerpeatdien 1066

RESULT 6
 AAY30048
 ID AAY30048 standard; Protein; 1068 AA.
 XX
 AC AAY30048;
 XX
 DT 04-OCT-1999 (first entry)
 XX
 DE Pancreatic eukaryotic translation initiation factor-2 alpha kinase.
 XX Pancreatic eukaryotic translation initiation factor-2 alpha kinase; PEK;
 KW eukaryotic translation initiation factor-2 alpha; pancreatic islet;
 KW drug discovery; drug development.

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XX OS Homo sapiens.
XX XX
XX PN WO9938994-A1.
XX XX
XX PD 05-AUG-1999.
XX XX
XX PF 12-JAN-1999; 99WO-US00623.
XX XX
XX PR 25-NOV-1998; 98US-0109992.
XX PR 29-JAN-1998; 98US-0073031.
XX XX
XX PA (ELIL ) LILLY & CO ELI.
XX XX
XX PI Shi Y;
XX XX
XX DR WPI; 1999-469338/39.
XX DR N-PSDB; AAX86565.
XX XX
XX PT Novel rat and human pancreatic eukaryotic translation initiation
XX PT factor 2alpha kinase useful for drug discovery and development
XX XX
XX PS Claim 7; Page 68-72; 77pp; English.
XX CC
XX CC The present sequence is a partial pancreatic eukaryotic translation
XX CC initiation factor-2 alpha kinase (PEK). PEK phosphorylates eukaryotic
XX CC translation initiation factor-2 alpha. PEK polynucleotides was
XX CC cloned from pancreatic islet DNA libraries. The PEK nucleic acids
XX CC and protein can be used as tools for drug discovery and development.
XX XX
XX SQ Sequence 1068 AA;

Query Match 6.0%; Score 511.5; DB 20; Length 1068;
Best Local Similarity 29.9%; Pred. No. 6.2e-33;
Matches 153; Conservative 82; Mismatches 156; Indels 121; Gaps 22;

QY 584 SRYFIEFEELQLLGKGFAGVAVIKVQNKLDGCCYAVKRIPINPASQFRRIKGEVTLISRL 643
DB 539 sryltdfepqlcgrggfvgvfeaknkvdcdnyakiripnrelarekvmevkalakl 598
QY 644 HHENIVRYNAWIE-----RHERPAGP-GTPPPDSGPLAKDDRAARGQPA 687
DB 599 ehpgivryfnawleapkekqekwqekmdeiwlkdestdwlsspsmdapsvk---irmdpf 655
QY 688 SDTGLDSVEAAAPPPIILSSVSWSTSGERSAS--ARFPATGPGSSDDED----- 735
DB 656 stk---ehlieilapsqrsrfsfgvscdqtssesqfslfsgmdhesisvdaayn 712
QY 736 -----DDED-----EHGGVFSQSFLPASD-----SESDFIFDN---EDENSKS 770
DB 713 lqdscltdcdvedgmdndeghsfelcpseaspyvrertssivfedsgcdnasske 772
QY 771 QNOEDCNEKNGC-----HSEPSV-----TTEAVH----- 796
DB 773 epktnrlhghncankltafkptssksseatisisprpttllsldtknteklqpsp 832
QY 797 --VLYIQMEYCEKSTLRD-----TIDQGLYRDTVRLWRLFREILDGLAYIHEKGMHHRD 848
DB 833 kvlylqmqclcrkenlkdwmggrctee---rersvclhifqlaeavefihskglmhrrd 889
QY 849 LKPVNIFLSDSDHVKIGDFGLATHLAFSADSKQDDQTDGLIKSDPS-GHUTGMVGTALY 907
DB 890 lkpsniffmddvkvqdgflvt-----amdqdeeqt---vltmpayarhtgvgvgtkly 942
QY 908 VQSPF-VQGSTKAYNOKVDLFLSLGIIIFEMSYHPMWTASERIFVLNQLRDTSPKFPEDF 966
DB 943 mspeqlgh---nsyshkvdifslgilfelly-pfstqmerivrtldvr---nkfpplf 995
QY 967 DQGEHAKQSVISWLLNHDHPAKRPTATELLKS 998
DB 996 tq-kypcyvmvqmdlsspsmerpeainien 1026
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```
RESULT 7
AAY30047
ID AAY30047 standard; Protein; 1115 AA.
XX AC
XX AC AAY30047;
XX DT
XX DT 04-OCT-1999 (first entry)
XX DE
XX DE Pancreatic eukaryotic translation initiation factor-2 alpha kinase.
XX KW Pancreatic eukaryotic translation initiation factor-2 alpha kinase; PEK;
XX KW eukaryotic translation initiation factor-2 alpha; pancreatic islet;
XX KW drug discovery; drug development.
XX OS Homo sapiens.
XX PN WO9938994-A1.
XX PD
XX PD 05-AUG-1999.
XX PF 12-JAN-1999; 99WO-US00623.
XX PR 25-NOV-1998; 98US-0109992.
XX PR 29-JAN-1998; 98US-0073031.
XX XX
XX PA (ELIL ) LILLY & CO ELI.
XX XX
XX PI Shi Y;
XX XX
XX DR WPI; 1999-469338/39.
XX DR N-PSDB; AAX86564.
XX XX
XX PT Novel rat and human pancreatic eukaryotic translation initiation
XX PT factor 2alpha kinase useful for drug discovery and development
XX XX
XX PS Claim 7; Page 57-62; 77pp; English.
XX CC
XX CC The present sequence represents a pancreatic eukaryotic translation
XX CC initiation factor-2 alpha kinase (PEK). PEK phosphorylates eukaryotic
XX CC translation initiation factor-2 alpha. PEK polynucleotides was
XX CC cloned from pancreatic islet DNA libraries. The PEK nucleic acids
XX CC and protein can be used as tools for drug discovery and development.
XX XX
XX SQ Sequence 1115 AA;

Query Match 6.0%; Score 511.5; DB 20; Length 1115;
Best Local Similarity 29.9%; Pred. No. 6.7e-33;
Matches 153; Conservative 82; Mismatches 156; Indels 121; Gaps 22;

QY 584 SRYFIEFEELQLLGKGFAGVAVIKVQNKLDGCCYAVKRIPINPASQFRRIKGEVTLISRL 643
DB 586 sryltdfepqlcgrggfvgvfeaknkvdcdnyakiripnrelarekvmevkalakl 645
QY 644 HHENIVRYNAWIE-----RHERPAGP-GTPPPDSGPLAKDDRAARGQPA 687
DB 646 ehpgivryfnawleapkekqekwqekmdeiwlkdestdwlsspsmdapsvk---irmdpf 702
QY 688 SDTGLDSVEAAAPPPIILSSVSWSTSGERSAS--ARFPATGPGSSDDED----- 735
DB 703 stk---ehlieilapsqrsrfsfgvscdqtssesqfslfsgmdhesisvdaayn 759
QY 736 -----DDED-----EHGGVFSQSFLPASD-----SESDFIFDN---EDENSKS 770
DB 760 lqdscltdcdvedgmdndeghsfelcpseaspyvrertssivfedsgcdnasske 819
QY 771 QNOEDCNEKNGC-----HSEPSV-----TTEAVH----- 796
DB 820 epktnrlhghncankltafkptssksseatisisprpttllsldtknteklqpsp 879
QY 797 --VLYIQMEYCEKSTLRD-----TIDQGLYRDTVRLWRLFREILDGLAYIHEKGMHHRD 848
```

Db 880 kvylviqmlcrkenlkdmngretiee---rersvclhiflqiaaveflhskglmhird 936
 QY 849 LKPVNIFLSDDHVKIGDFGLATDLAFSADSKQDDQTDGLIKSDPS-GHLTGMVGITALY 907
 Db 937 lkpsniffmdvkvvgfivt-----amdqdeeqt--vltmpayarhtgvgtkly 989
 QY 908 VSPE-VQSTKSAYNQKVDLPSLGIIFEMSYHPMTASERIFVLNQLRDTSPKFPEDF 966
 Db 990 mspeqihg---nsyshkvdkifslgilfelly-pfstqmervritdvr---nikfpelf 1042
 QY 967 DGEHAKQKSVISWLLNHDPAKRPTATTELLKS 998
 Db 1043 tq-kypceyvmvqdmldspmerpeainlien 1073
 RESULT 8
 AAR44008
 ID AAR44008 standard; Protein; 626 AA.
 XX
 AC AAR44008;
 DT 12-MAY-1994 (first entry)
 DE Rabbit eIF-2 alpha kinase.
 KW eukaryotic initiation factor 2 alpha kinase; HRI;
 KW haem-regulated initiator; translation; protein synthesis;
 KW rabbit reticulocyte lysate.
 OS Oryctolagus cuniculus.
 FH Key Location/Qualifiers
 FT Peptide 166..178
 FT Peptide /label= P-56
 FT Peptide 454..467
 FT Peptide /label= P-52
 FT Peptide 506..525
 FT Peptide /label= P-74
 XX JP05260981-A.
 XX
 PD 12-OCT-1993.
 PF 02-MAR-1992; 92JP-0081664.
 PR 02-MAR-1992; 92JP-0081664.
 XX (MASI) MASSACHUSETTS INST TECHNOLOGY.
 DR WPI; 1993-356453/45.
 DR N-PSDB; AAQ51296.
 XX
 PT DNA coding for eucaryotic cell initiation factor 2-alpha kinase -
 PT used for regulation of cell proliferation and differentiation,
 PT for treating cancer and psoriasis
 XX Claim 2; Page 2-3; 20pp; Japanese.
 CC The eIF-2alpha kinase can be used to inhibit protein synthesis, to
 CC induce cell differentiation and to prevent esp.viral infection. The
 CC kinase is also called the haem-regulated initiator protein (HRI).
 XX Sequence 626 AA;
 SQ
 Query Match 5.6%; Score 473.5; DB 14; Length 626;
 Best Local Similarity 32.2%; Pred. No. 3.6e-30;
 Matches 146; Conservative 69; Mismatches 170; Indels 69; Gaps 18;
 QY 580 QRQFSRYTIEFEELQLKGFAGVIRKQNKLDGCCYAVKRIPINPASR-QFRIRKGEVT 638
 Db 160 eaqtsrylnefeelsilkggygryvkrnkldggyaikkilkgatktdcmkvirevk 219

QY 639 LLSRLHENIVRYYNAMIER-HERPAGCTGP--PPDSGPLA--KDDRAARGQPASDTDGL 693
 Db 220 vlaglqhpniyvgvhtawiehvhvqadrpqlplslvsdqedrdgvgvknassss 279
 QY 694 DSVEAAAAAPPILSSSVEMWSTGERSASARPPA-----TGPSSSDEDDDDDEHGGVFSQ 747
 Db 280 silfaefspekeksdecavesqnnklyvntnlvrdtgefesste---rqengsilver 336
 QY 748 SFLPASDESIIIFDNEDENSKQDQDENCNEKNGCHESEPSVTTAVHY--LYIQMEYC 805
 Db 337 qlifghmsdve-----edfstaeesseedsalr-----htevqyhlmlhmqmlic 382
 QY 806 EKS-----TLRDTIDQGL--YRDTVRLWRLFREILDGLAYTHEKGMHRLDKPVN 853
 Db 383 elslwdlaernrrsrecvdscapyvmvsvatkifgelvegvyfhnmgivnrdlkprn 442
 QY 854 IFLDS-DDHVKIGDFGLATDLAFSADSKQDDQTDGLIKSDPSCHLTGMVGTALYSPE- 911
 Db 443 iflhpdqgvkigdfgla-----cadilqknaartsrngerapthtsrvgtclyaspeq 496
 QY 912 VQSTKSAYNQKVDLPSLGIIFEMSYHPMTASERIFVLNQLR-----DPTSPKFPEDF 966
 Db 497 leg---seydaksdmysvgvilllel-fqpfgtemeraevltgvrigrpdsiskrop--- 549
 QY 967 DGEHAKQKSVISWLLNHDPAKRPTATTELLKSEL 1000
 Db 550 -----aqakyvqltrnasqpsalqlqsel 577
 RESULT 9
 AAR49849
 ID AAR49849 standard; Protein; 526 AA.
 XX
 AC AAR49849;
 DT 14-OCT-1994 (first entry)
 DE Haem-regulated eukaryotic initiation factor 2 alpha kinase.
 KW Haem-regulated eukaryotic initiation factor 2 alpha kinase;
 KW differentiation; cell division; protein synthesis; cancer;
 KW cell proliferation; chronic myelogenous leukaemia; psoriasis;
 KW infection.
 XX Oryctolagus cuniculus.
 OS
 XX WO9405794-A.
 PD 17-MAR-1994.
 PF 27-AUG-1993; 93WO-US08131.
 PR 31-AUG-1992; 92US-0938782.
 XX (MASI) MASSACHUSETTS INST TECHNOLOGY.
 PI Chen J, London IM;
 DR WPI; 1994-101198/12.
 DR N-PSDB; AAQ44511.
 XX DNA encoding the haem-regulated eukaryotic initiation factor 2
 PT alpha kinase - used as an anti-viral and anti-proliferative
 PT agent, esp. against cancer and psoriasis
 XX Claim 9; Page 32-35; 53pp; English.
 CC The haem-regulated eukaryotic initiation factor 2 alpha kinase (HRI)
 CC is a potent inhibitor of protein synthesis and may have a role in
 CC the regulation of cell division. It can be used to inhibit
 CC infection and as an antiproliferative agent in cancers
 CC such as chronic myelogenous leukaemia and psoriasis. The cDNA
 CC encoding HRI can be inserted into cells to manipulate proliferation

CC and differentiation, especially of cells with uncontrolled
XX proliferation or arrested differentiation.

XX Sequence 626 AA;

Query Match 5.6%; Score 473.5; DB 15; Length 626;
Best Local Similarity 32.2%; Pred. No. 3.6e-30;
Matches 146; Conservative 69; Mismatches 170; Indels 69; Gaps 18;

QY 580 QRFSPYFIEPEELQLGKGAFAVIVQNKLDGCCVAVKRIPINPASR-QFRRIKGEVT 638
DB 160 eaqtsrlynefeelsilgkggygryvvrnkldggyaalklikgatkdcmkvirek 219
QY 639 LLSRLHNIYRYNNAWIER-HERPAGGTP--PPDSGPLA--KDDRAARGQPASDTDGL 693
DB 220 vlaglqpnlvgyhtawlehvvhvqadvpqlpslevlsdqeedrdrqgvkndasss 279
QY 694 DSVAAAPPPLSSSVWSTSGERSASARPPA-----TGPSSDDEDDDEHGGVFSQ 747
DB 280 silfaefspekssdecavesgnklvnytnlvvrdtgefesste---rqengsilver 336
QY 748 SFLPASDESIIIDNEDESKSQNDCEKNGCHESEPSVTTTAVHY--LYIQMEYC 805
DB 337 qlfghusdve-----edfssaeesseedisair-----hveqyhlmlhmqic 382
QY 806 EKS-----TLRDTIDQGL--YRDTVRLWLRFREILDGLAYIHEKGMIRDLKPVN 853
DB 383 elslwdwlaernrrsrecvdesacpymvsvatkifqelvegyfihmgivhrdlkprn 442
QY 854 IFLDS-DDHVKIGDFGLATHLAFSADSKDDQDTGDLIKSDPSGHLTGVMGTALYVSPE- 911
DB 443 iflhpgdqgkvigfgla-----cadilgknaartsrngerapthtsrvgtclyaspeq 496
QY 912 VOGSTKAYNOKVDLSLGIIFPEMSVHPMVTASERIFVLNQLR-----DPTSPKPEDF 966
DB 497 leg---seydaksdmsyvgvilllei-fqpfgttemeraevltgvrgripdsiskrcp--- 549
QY 967 DDGEHAKQKSVISWLLNHPAKRPTAPELKLSEL 1000
DB 550 -----aqakyvqlttrnasqrpsalqlqlsel 577

RESULT 10
AAB65664

ID AAB65664 standard; Protein; 630 AA.

AC AAB65664;

DT 27-MAR-2001 (first entry)

XX Novel protein kinase, SEQ ID NO: 192.

XX Human; mouse; protein kinase; antiarthritic; antisclerotic; osteopathic;
XX immunosuppressive; cardiac; renal; antiinflammatory; antiasthmatic;
XX dermatological; antidiabetic; antinfertility; gene therapy; vaccine;
XX immune disorder; cardiovascular disease; neurodegenerative disease;
XX cancer; autoimmune disorder; stroke; inflammatory bowel disease;
XX inflammatory pelvic disease; multiple sclerosis; psoriasis.

XX Homo sapiens.

XX WO200073469-A2.

XX 07-DEC-2000.

XX 26-MAY-2000; 2000WO-US14842.

XX 28-MAY-1999; 99US-0136503.

XX (SUGE-) SUGEN INC.

XX Plowman GD, Martinez R, Whyte D, Sudersanam S;

XX

DR WPI; 2001-032161/04.

XX N-PSDB; AAF44692.

XX Nucleic acids encoding kinase polypeptides, useful for diagnosing and
PT treating immune-related diseases and disorders, cardiovascular disease,
PT neurodegenerative diseases and/or cancers -

XX Claim 10; Fig 1; 310pp; English.

XX The present sequence is a novel protein kinase. The novel protein kinases
CC and the nucleic acids that encode them may be used in the treatment and
CC diagnosis of diseases associated with inappropriate kinase expression
CC such as immune-related diseases and disorders, cardiovascular disease,
CC neurodegenerative diseases and/or cancers. The nucleic acids and
CC complementary sequences may also be used as DNA probes in diagnostic
CC assays. The kinase polypeptides may be used as antigens in the production
CC of antibodies of kinase expression and activity. Anti-kinase antibodies
CC and kinase antagonists may also be used to down regulate kinase
CC expression and activity. Diseases related to kinase expression and
CC activity include rheumatoid arthritis, atherosclerosis, autoimmune
CC disorders, complications of organ transplantation, myocardial infarction,
CC immune disorders, cardiomyopathies, strokes, renal failure,
CC oxidative-stress related disorders, chronic inflammatory bowel disease,
CC chronic inflammatory pelvic disease, multiple sclerosis, asthma,
CC osteoarthritis, psoriasis, rhinitis, autoimmunity, diabetes, cancers and
CC reproductive disorders.

XX Sequence 630 AA;

Query Match 5.5%; Score 471.5; DB 22; Length 630;

Best Local Similarity 32.9%; Pred. No. 5.3e-30;

Matches 161; Conservative 70; Mismatches 185; Indels 73; Gaps 22;

QY 550 QSPESGQDYVETVPSNRLPSAAFFSETQRFYFIEPEELQLGKGAFAVIVQNV 609

DB 129 rsakervrqpcedisrqlkirsrevalaegt--srynefeelvlgkggyrvykv 186

QY 610 KUDGCCYAVKRIPINPASRQF--RRIKGEVTLRLHNIYRYNNAWIERHAPGCTP 668

DB 187 kldggyaalklikgatkcmkvirevkvlaglqhnplvgyhtawle-hvhwilqp--- 242

QY 669 PPDGFLAKDDRAARGQPA-----SPTDGLDSVERAAPPLILSSSV-E 710

DB 243 -----radraaelpslevlsdqeedreqvgvkndesssssiifaepkekrige 294

QY 711 WTSGERASARPPA--TGPSSDDEDDDEHGGVFSQSFPLPASDSDDSIIFDNEDENS 768

DB 295 sdtengnknkvktytnlviresgelestlelqenglagls--assiveqqlplrnshle 352

QY 769 KSONQDEDCNEKNGCHESEPSVTTTAVHY--LYIQMEYCEKSTL-----RDTIDQ 816

DB 333 sftessteesseenvnflgq---teagyhlmlhmqmqlcelslwdwivernkrreyvde 408

QY 817 GL--YRDTVRLWLRFREILDGLAYIHEKGMIRDLKPVNIFLDS-DDHVKIGDFGLA-TD 872

DB 409 sacpymvanvatkifqelvegyfihmgivhrdlkprniflhpgdqgkvigfglactd 468

QY 873 HIAFSADSKDDQDTGDLIKSDPSGHLTGVMGTALYVSPE-VOGSTKAYNOKVDLSLGI 931

DB 469 il-----qkntdwttrngkrtp-t-h-tsrvgtclyaspeqleg---seydaksdmsylg 518

QY 932 IFFEMSYHPMVTASERIFVLNQLRDPPTSPKPEDFDDGEHAKQKSVISWLLNHPAKRPT 991

DB 519 vllel-fqpfgttemeraevltglr---tgqipeslrk-rcpvqakyiqhltrrnssqrps 573

QY 992 ATELKSEL 1000

DB 574 aiqlqlsel 582

RESULT 11


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XX  Sequence 551 AA;
SQ
Query Match 4.9%; Score 414; DB 16; Length 551;
Best Local Similarity 25.7%; Pred. No. 2,5e-25;
Matches 156; Conservative 69; Mismatches 167; Indels 216; Gaps 23;

QY 408 QLLSGLDYLHNSVHVKSASNLVDAGTVKITYDISKRLADICKEDVFQTRVRS 467
Db 155 qlaaklaylq-----ilseetsvk-sdylssgsfattces-----q 189

QY 468 DNALPYKTGKGDVWRLGLLLLSQGCQEGEYPTIPSDLPADQDFLKKVCVLDKER 527
Db 190 snslvtst-----lasessseg-----dfsadtsei-----nnsds 221

QY 528 WSPQQLLKHFINPQKMPLEQSPEDSGGDYVETVIPSANRLPSAAPFSTQRFGRYF 587
Db 222 lnssllmnglrnnqrkak-----rslaprfldp---mketkytdvkrf 263

QY 588 -IEFEELQLLGKAGFAGVAVKQNKLDGCCYAVKRIPIPNASQFRRIKGEVTLRLHHE 646
Db 264 gmfkeleligsggfgqvkakhrldgktyvikrvkynn-----ekaerevkalakldhv 318

QY 647 NIVRYNNAWIERHERPAGTPTPPDGSLAKDDRAARGOPASDTGDLDSVEAAPPILS 706
Db 319 nivhyngcw-----dgfd----- 331

QY 707 SSVENSTGERSASARFPATGPGSSDDEDEHGGVFSQSLPASDESIIFDNEDE 766
Db 332 -----ydpetsdds-----less-----dydpe 349

QY 767 NSKSONODECNKNGCHESEPSVTTEAVHYLYIQMEVCEKSTLRDTID--QGLYRDTVR 824
Db 350 nsknsr-----sktke-----lfigmefcdkgtleqwkrrgekldkvl 390

QY 825 LWRFLREILDGLAYTHEKGMHRLDKPNVIFLSDDDHVKIGDFGLATDHLAFSADSKQDD 884
Db 391 alelfeqitkgvdyihskkllhrldkpsniflvtckvkgdglvts----- 438

QY 885 QTGDLIKSPSGHLTGWGTALYVSPVQGSTKSAYNOKVDLSGLIIFEMSYHPWMTA 944
Db 439 -----lknd--gktrskgtlrymspeqiss--qdygkevdyalglilael-lhvcdda 488

RESULT 13
AAW12705
ID AAW12705 standard; Protein; 551 AA.
XX
AC AAW12705;
XX
DT 04-MAY-1997 (first entry)
XX
DE Human dsRNA-dependent protein kinase.
XX
KW dsRNA-dependent protein kinase; PKR; 2-5A synthetase;
KW 2-5A-dependent RNase L; 2-5A system; antiviral;
KW RNA degradation; transgenic plant; tobacco; disease resistance;
KW crop protection; tobacco mosaic virus; tobacco etch virus;
KW alfalfa mosaic virus.
XX
OS Homo sapiens.
XX
PN WO9639806-A1.
XX

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PD 19-DEC-1996.
XX
XX 07-JUN-1996; 96WO-US09895.
XX
XX 07-JUN-1995; 95US-0487797.
XX
XX (CLEV-) CLEVELAND CLINIC FOUND.
XX
XX Mitra A, Silverman RH;
XX
XX WPI; 1997-051617/05.
XX
XX N-PSDB; AAT59650.
XX
XX Transgenic plants co-expressing 2-5A-dependent RNase and 2-5A
XX synthetase - have increased resistance to viral infection esp. to
XX tobacco mosaic virus, tobacco etch virus or alfalfa mosaic virus
XX
XX Disclosure; Page 146-148; 189pp; English.
XX
XX Human dsRNA-dependent protein kinase (PKR) (AAW12705) is an
XX antiviral protein that is believed to phosphorylate the alpha
XX subunit of translation factor eIF2-alpha, which indirectly inhibits
XX protein synthesis initiation. Its amino acid sequence was deduced
XX from a PKR cDNA clone (AAT59650). Novel transgenic plants, such as
XX transgenic tobacco, express (together or alone) the PKR, human 2-5A
XX synthetase (see also AAW12701) and human or mouse 2-5A-dependent
XX RNase (see also AAW12702-03). When the plants are exposed to tobacco
XX mosaic virus, tobacco etch virus and alfalfa mosaic virus, necrotic
XX local lesions occur instead of typical systemic infections.
XX
XX Sequence 551 AA;
SQ
Query Match 4.9%; Score 413; DB 18; Length 551;
Best Local Similarity 25.7%; Pred. No. 3e-25;
Matches 156; Conservative 69; Mismatches 167; Indels 216; Gaps 23;

QY 408 QLLSGLDYLHNSVHVKSASNLVDAGTVKITYDISKRLADICKEDVFQTRVRS 467
Db 155 qlaaklaylq-----ilseetsvk-sdylssgsfattces-----q 189

QY 468 DNALPYKTGKGDVWRLGLLLLSQGCQEGEYPTIPSDLPADQDFLKKVCVLDKER 527
Db 190 snslvtst-----lasessseg-----dfsadtsei-----nnsds 221

QY 528 WSPQQLLKHFINPQKMPLEQSPEDSGGDYVETVIPSANRLPSAAPFSTQRFGRYF 587
Db 222 lnssllmnglrnnqrkak-----rslaprfldp---mketkytdvkrf 263

QY 588 -IEFEELQLLGKAGFAGVAVKQNKLDGCCYAVKRIPIPNASQFRRIKGEVTLRLHHE 646
Db 264 gmfkeleligsggfgqvkakhrldgktyvikrvkynn-----ekaerevkalakldhv 318

QY 647 NIVRYNNAWIERHERPAGTPTPPDGSLAKDDRAARGOPASDTGDLDSVEAAPPILS 706
Db 319 nivhyngcw-----dgfd----- 331

QY 707 SSVENSTGERSASARFPATGPGSSDDEDEHGGVFSQSLPASDESIIFDNEDE 766
Db 332 -----ydpetsdds-----less-----dydpe 349

QY 767 NSKSONODECNKNGCHESEPSVTTEAVHYLYIQMEVCEKSTLRDTID--QGLYRDTVR 824
Db 350 nsknsr-----sktke-----lfigmefcdkgtleqwkrrgekldkvl 390

QY 825 LWRFLREILDGLAYTHEKGMHRLDKPNVIFLSDDDHVKIGDFGLATDHLAFSADSKQDD 884
Db 391 alelfeqitkgvdyihskkllhrldkpsniflvtckvkgdglvts----- 438

QY 885 QTGDLIKSPSGHLTGWGTALYVSPVQGSTKSAYNOKVDLSGLIIFEMSYHPWMTA 944
Db 439 -----lknd--gktrskgtlrymspeqiss--qdygkevdyalglilael-lhvcdda 488

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QY 945 SERIFVLNLRDPTSPKPEFDGDEHAKOKSVISWLLNHDPAKRPTATTELLKSELPPPP 1004
Db 489 fetskftrldrgi---isdifd---kkekltlqllskkpedrptseilrtltvwwk 541
QY 1005 QMESELH 1012
Db 542 speknerh 549
RESULT 14
AAW25223
ID AAW25223 standard; Protein; 509 AA.
XX AC AAW25223;
XX DT 05-FEB-1998 (first entry)
XX DE Human histidyl-tRNA synthetase.
XX KW tRNA; transfer RNA; UTR: untranslated region; primer; probe;
KW amplification; hybridisation; detection; diagnosis; immunoassay;
KW autoantibody; autoimmune disease; myositis; polymyositis;
KW dermatomyositis; recombinant.
XX OS Homo sapiens.
XX PH Location/Qualifiers
XX FT Region 67..103
XX FT /note= "Motif 1"
XX FT Region 107..144
XX FT /note= "signature region 1"
XX FT Region 145..180
XX FT /note= "Motif 2"
XX FT Misc-difference 196
XX FT /note= "given in the specification as "**,
XX FT represents the site of a conserved
XX FT substitution"
XX FT Region 324..370
XX FT /note= "signature region 2"
XX FT Region 378..405
XX FT /note= "Motif 3"
XX PN US5663066-A.
XX PD 02-SEP-1997.
XX PE 22-APR-1993; 93US-0052404.
XX PR 22-APR-1993; 93US-0052404.
XX PR 07-JUN-1995; 95US-0479156.
XX PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
XX PA (USSH) US NAT INST OF HEALTH.
XX PI Leff R, Nichols R, Plotz P, Raben N;
XX WPI: 1997-447931/41.
XX Recombinant histidyl tRNA synthetase produced in insect cells -
XX useful in immunoassays for diagnosis of autoimmune diseases
XX Disclosure: Fig 2A-B; 28pp; English.
XX AAW25223 represents human histidyl tRNA synthetase (HRS). This
XX sequence was produced from a human HRS gene suitable for
XX expressing HRS in insect host cells, particularly Sf9 cells. The
XX protein, or peptide fragments produced can be used in immunoassays
XX for detecting autoantibodies associated with autoimmune diseases,
XX especially myositis, polymyositis or dermatomyositis. The recombinant
XX protein is more sensitive to autoantibodies than HRS purified from
XX calves' liver or HeLa cells and has better storage stability, C.
XX especially being stable for more than 24 hr at -80 to 25 deg. C.

SQ Sequence 509 AA;
Query Match 4.7%; Score 399; DB 18; Length 509;
Best Local Similarity 24.7%; Pred. No. 3.Be-24;
Matches 129; Conservative 110; Mismatches 225; Indels 58; Gaps 16;
QY 1007 ESESELHVLHHTLTWVDGKAYRTMAQIFSQRIISPAT-----DVTSDILK----- 1053
Db 3 eraaleelvklqgervrglkqkqasaelieevaklliklaqlgpdskqkfviktqkgt 62
QY 1054 GNFSTRTAKMOHVCTETIRIFKRHGAVQLCTPLLLPNRQIYEHNAAALPM-----DHSG 1109
Db 63 rdyprqamavrekfvdiircfkrhgaevldtpvfelketlmqkygedskliylldkqgg 122
QY 1110 MLVMLPFDLRIPFARYVARNNLNLKRYCIERVFRPRK--LDREHPKLELSCAFDIVTST 1167
Db 123 ellslrydltpvfarylamnkltikryhiakvyrndpamtrgrgyrfygcdfdi-agn 181
QY 1168 TNSFLTAELIYTIYEIIQEFPALOERNYSIVLNHTMLLKAILLHCGIPEDKLSQV--YI 1225
Db 182 fdpmipdaecikimxeils---slqgdfivkvndrrildgmfaicgvdsdkfrticssv 238
QY 1226 ILVDAYTEKILTRREVEAKFCNLSSNSLCRLYKFIEOKGDLQDLMPNTINSLIKQ----- 1280
Db 239 dkldkvsweevknemvge---kgapevadrigdyvqghgv-----slveqlldqp 287
QY 1281 KTGIQALVKYGLKDLLEVVGLLKKIGIKLOVLINLGLVYKVOOHNGIIFOFVAFIKRRQR 1340
Db 288 klsgnkqaleglgdllkllfeyltlfkgdkisfdslargldyytgvlyeavllqtapaq 347
QY 1341 AVPEI-----LAAGGRYDLLIPQFRGPQALGPVPTAIGVSIADIKISAAYLN-----MERSV 1392
Db 348 geepigvgsvaagrgydgvlvgmf---dpkgrkvcpglsigverifsiveqrlealeeki 404
QY 1393 TISSCDLLVSVGOMSMRAINLTOKLWTAGITAEIMYDWSQSQSELOEYCRHHEITVVA 1452
Db 405 rttetqvlvasagkllleerklvselwldagikaellyknpkllnqlgdyceagiplva 464
QY 1453 LVSDKE--GSHVKVKSPKEROKEKRVLETELVDHVLQKLRT 1492
Db 465 ilgeqelkdgviklrsvtsreevdvr--redlveei--krrt 502
RESULT 15
AAW25223
ID AAW25223 standard; Protein; 495 AA.
XX AC AAW25223;
XX DT 10-AUG-2000 (first entry)
XX DE Corn histidyl-tRNA synthetase.
XX KW Corn histidyl-tRNA synthetase; aminoacyl-tRNA synthetase;
XX KW AARS; herbicide; plant toxin; protein synthesis inhibition; enzyme.
XX OS Zea mays.
XX PN WO200028057-A2.
XX PD 18-MAY-2000.
XX PF 09-NOV-1999; 99WO-US26478.
XX PR 10-NOV-1998; 98US-0107789.
XX PA (DUPO) DU PONT DE NEMOURS & CO E I.
XX PA (PION-) PIONEER HI-BRED INT INC.
XX PI Famodu OO, Simmons C;
XX WPI: 2000-387421/33.

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